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RHEUMATIC ARTHRITIS OF COXO-FEMORAL ARTICULATION. SPONTANEOUS DISLOCATION ON DORSUM ILLI. REDUCTION AFTER SEVERAL MONTHS.

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MARY D., aged 8, entered The Children's Hospital July 28, 1869. She was, to appearance, a feeble, poorly nourished child, and was evidently much reduced by several months' illness. The history of her case was somewhat indefinite, as her parents, though seemingly intelligent, gave no clear account of the early stages. As far as could be ascertained, she fell on the ice in the previous February, without, however, much apparent injury. Early in March, she was attacked with acute rheumatism, general in its character and not alone in the joint affected on entrance into the Hospital. The evidence regarding the nature of the disease is definite and fixed; it could have been nothing except an attack of rheumatism, pure and simple. She was confined to bed three and a half months. During the latter part of the time she laid with her legs strongly flexed. At this date, which the mother puts at June 15, the distortion at the hip was seen, as at the time of entrance to the Hospital. She could not stand, nor was she removed from the bed to the floor from March 1 to the middle of June, at which time the distortion was noticed and the other signs of dislocation were apparent, as at the time of reduction.

Oct. 4, seven months from the commencement of the rheumatism and three and a half from the completion of the cure of that disease, I found the patient in bed, and in the following condition. She had recovered the general aspect of health; her spine was nearly straight; she had walked for four weeks about the ward and the whole Hospital, though in a crippled condition, as expressed further on, and had joined in play with the rest of the children. While lying in bed, as well as when held up with the legs pendant, there was shortening of two

and a quarter inches of the right leg, by careful and repeated measurements. The toes pointed under the instep and at times behind the heel of the left foot. The patella was directed to the inner aspect of the left thigh above the left patella. Under ether, the head of the right femur was felt behind the acetabulum, and its normal position was vacant. The trochanter was very prominent, and the right buttock flattened laterally. The leg could not be rotated outward. On walking, she bent the right knee, to enable the left foot to reach the ground; carried the right side of the pelvis out and round, rested on right foot without pain and reached left leg again by a kind of spring, bringing forward the right foot again, even more inverted than when standing or lying. The right groin was much distorted, as if drawn up; the right labium almost obliterated. *The physical signs remained unchanged on giving ether.* The leg could be flexed, rotated inward, abducted and adducted, but could not be carried back of the longitudinal axis of the body.

The patient was etherized; the adhesions were broken up by means of forcible ab- and adduction and rotation; the pelvis and body of the child were then held by assistants, and, by flexion, adduction, external rotation and by some immediate pressure on the head of the bone,* it was brought below the acetabulum, when, by lifting the limb, while still flexed, the head was restored to its normal position. A snap† was felt by my hand as the head passed over the brim of the acetabulum, but was inaudible to the bystanders; the sensation was not so much that of the bone snapping sharply into place, as might be expected in a recent dislocation, but rather its passing over a prominence into a socket partially filled, as might be supposed, with new tissues. On extending the leg, the length was very nearly restored, the leg being, by contraction of fibrous tissue and ten-

* Bigelow. The Mechanism of Dislocation and Fracture of the Hip. Philadelphia, 1869, p. 58.

† Dupuytren. On the Injuries and Diseases of Bone. London, 1857, p. 390.

dons, a little flexed; the toes and patella pointed naturally forward; the trochanter was restored to its normal prominence; the groin and vulva became natural.

A broad belt was passed around the pelvis, with compress behind the head of the bone; extension was obtained from above the knee and a moderate weight applied. The patient remained in bed, with the extension apparatus applied, for three weeks, and for a few days longer without apparatus. About Nov. 1 she began to bear her weight on the leg, and in a few days was walking easily and with only so much limp as might be due to long disease. Left the Hospital Nov. 23d.

September, 1870, she now walks without trace of lameness, and uses her limb with as much freedom and ease as any girl of her age.

The case of Mary D. is put on record as so much evidence to disprove the assertion that dislocation of the femur cannot occur as the result of rheumatic arthritis; and as another example of the few cases on record of reduction of the femur after long-continued displacement—the effects of the original disease of the hip having passed away—this reduction being effected by the method which Dr. Bigelow has treated of in his monograph.

I am not ignorant of the authorities on the one side and the other, when I call this a case of spontaneous dislocation of the femur, the bone being in its normal condition and without caries, absorption or other removal of the head. I therefore propose to hold to my assertion to that effect, and will quote some of the authorities on the subject—not compilers alone, but actual surgical observers.

Dr. Alden March, in his paper presented to the American Medical Association, and published in their Transactions, begins by saying:—"I shall take the position that *spontaneous dislocation of the hip* (as purely the result of morbid action, unaided by superadded violence) seldom or never takes place."* Again he says:—"I came to the conclusion that all the usual symptoms of a dislocation, such as are commonly relied on during life as diagnostic of an idiopathic dislocation, could be accounted for and satisfactorily explained, at least to my mind, in the strongly marked organic changes in the form and relations of the head of the femur and acetabulum, without the existence of such an accident. * * * I shall rely upon nothing but *post-mortem ocular*

demonstration."* The latter assertion Dr. March uses to meet the cases and arguments of several authorities on the subject.

"I am sustained in my views as respects spontaneous dislocation of the hip by one of the most minute, experienced and accurate pathologists in the United States; I refer to Dr. J. B. S. Jackson, of Boston, who has in his pathological collection four or five strongly marked specimens of hip disease, and, in almost every respect, corresponding with my own."[†]

In opposition to the views of so accurate an observer as Dr. March, we find the opinions of some of the best surgeons of the past and present. Charles Bell, perhaps better than any other one, describes the method of dislocation which seems to me most rational in this case. He says:—"Whenever there is any, the slightest degree of inflammation of the hip-joint, whether it proceed from an injury or be a spontaneous and constitutional inflammation, there is an inclination of the pelvis on the head of the thigh bone; and the inclination of the trunk from the line of the thigh bone increases in proportion to the degree of inflammation. At last, the disease continuing, the affected leg and the trunk will form an angle of 45°, and the head of the femur will be raised upon the lip of the acetabulum and prepared to start out of the socket altogether. A ligament, to be firm and white and strong, must have only its natural degree of vascularity; but if it be inflamed, with its increase of vascularity, it becomes of a gray color and softer, and loses its power of resistance. This condition of the ligament permits dislocation, but does not cause it. It is the inclination of the body and the leg which throws out the head of the bone from the socket, and owing to the softening and yielding of the ligaments, there is no check or limit to the distortion, and thus dislocation is consequent on injury."[‡] One or two additional remarks complete what appears to me the most accurate description of this dislocation. The injury should perhaps hardly be ascribed solely to the inclination of the body; it is undoubtedly that which brings the head of the bone to the upper and back part of the acetabulum and finally to its edge; but the action of all the muscles which are inserted into the femur, acting continuously on the thigh under this disadvantage, draw it up against the length of

* March. Transactions American Medical Association.

† Ibidem, p. 497.

‡ Bell. Observations on the Injuries of the Spine and of the Thigh Bone, London, 1821.

* March. Transactions American Medical Association, vol. vi. p. 479.

the thigh, forcing it up and over the edge, and so produce the dislocation. Bell does not refer to those cases where the head of the bone is retained at or near the edge of the acetabulum, causing partial absorption at that point and the condition known as subluxation. He also omits to speak of the rupture of the capsule when dislocation takes place or its being forced forward before the advancing head and forming a pocket for its lodgment outside the acetabulum.

Brodie gives the autopsy in the case of a man dying of hip disease, in which the condition of the hip was found to be as follows:—"The head of the femur was lodged on the dorsum of the ilium. The capsular ligament and synovial membrane were much dilated; and at the superior part their attachment to the bone was thrust upwards, so that, although the head of the femur was no longer in the acetabulum, it was within the cavity of the joint."*

Dr. N. R. Smith also says:—"So active a part do muscles perform in effecting dislocations that, not infrequently, they alone, when convulsively acting, luxate important articulations. * * * The hip is also dislocated at the moment of the production of very slight distortion by the action of the very powerful muscles concerned in the motions of the femur. * * * The final dislocation of the bone from its natural position I believe to be in almost all cases effected by the action of the muscles alone."†

Brodie also says:—"At other times the shortening of the limb takes place in another way. The cavity of the acetabulum is filled up by lymph or pus, or by lymph and pus together; the capsular ligament of the joint in consequence is dislocated. Then the round ligament is destroyed by the ulceration which has already consumed the cartilage. The head of the femur is pushed from the joint until it passes beyond the margin of the acetabulum, and then the muscles pull it upwards and lodge it on the dorsum of the ilium. Sometimes when the head of the femur is dislocated, it will be nearly entire; in other cases it is partly absorbed. * * * There is one circumstance which favors the escape of the head of the femur from the socket of the acetabulum, and that is the position in which the child generally lies if left to himself, with his knees bent inward so as to cross the sound

limb. This cannot be done without making the trochanter project on the side of the disease, and this favors the escape of the head of the bone."*

Boyer says:—"The terms spontaneous luxation of the femur, consecutive luxation, &c., have been applied to a disease of the hip-joint, in which the head of the femur, gradually pushed out of the acetabulum, ascends on the external side of the os innominatum or descends into the foramen ovale. * * * Often the disease is the consequence of scrofula, rheumatism, gout, &c."†

Referring again to the power of the muscles to force the bone from its socket, he says:—"Dans les articulations orbiculaires, environnées par des muscles nombreux et puissans, l'action de ces organes se joint constamment à la violence extérieure pour causer la luxation."‡ He elsewhere calls attention to the fact that the bone does not always preserve the position it first assumes as the result of a dislocation, but is moved therefrom by muscular contraction—calling the first primitive, the latter consecutive.

Mr. Holmes says:—"I have already stated that dislocation, in any intelligible sense of that term, hardly ever occurs as a consequence of hip disease, i. e. the surface of the head of the bone is hardly ever removed from contact with the acetabulum. The displacement to which the elevation of the trochanter is due is almost always the result of enlargement of the acetabulum and drawing upwards of the neck and trochanter. At the same time, I have referred to a case under my charge, in which true dislocation had certainly taken place; and I have seen a few other cases. In one, under Mr. Cæsar Hawkins's care, and where he removed the head of the femur, it lay immediately under the skin. In another in the Museum of St. George's Hospital it is placed just below the anterior or superior spine of the ilium. But, in all ordinary cases, the head of the femur (or its remains) however displaced, is in contact with the enlarged acetabulum. Mr. Barwell says that when dislocation has become complete, so that the ulcerated bones are no longer in contact, the muscular spasms will subside, and, with them, the obliquity of the pelvis will disappear; so that in every case, if the characteristic obliquity of the pelvis is present, with only

* Brodie. Clinical Lectures on Surgery, Philadelphia, 1846, p. 279.

† Boyer. A Treatise on Surgical Diseases, New York, 1816, vol. ii. p. 294.

‡ Boyer. Traité des Maladies Chirurgicales, iv. 21, Paris, 1822.

* Brodie. Observations on the Diseases of the Joints, Boston, 1812, p. 137.

† Smith. Medical and Surgical Memoirs of N. Smith, p. 167.

the usual amount of shortening, the surgeon may be sure that there is no real dislocation.*

Singularly in opposition to the method of dislocation which is suggested by the authorities named, and seemingly contrary to reason, is that by the distention of the capsular ligament by synovial fluid or pus. Sir Benjamin Brodie says:—"I shall speak at present of dislocation from disease only as it occurs in cases of inflammation of the synovial membrane. I have seen several instances in which dislocation took place under these circumstances, and I conclude that the following is the proper explanation of it:—The cartilage begins to ulcerate, and generally at that part at which the ligaments are inserted. The ulceration extends to one extremity of the round ligament. The acetabulum is filled with lymph and synovia, and the capsular ligament is thereby much distended. There is then, of course, a force operating which tends to push the head of the bone out of the socket in which it is contained."†

The apparent folly of such an explanation is answered by quoting a passage from Boyer, as follows:—"This explanation appears, at first sight, to be plausible; but it is specious. If there were any increased quantity of synovia, it would collect between the neck of the femur and the capsular ligament and distend the latter; but it can never stretch this ligament, nor the muscles around the joint and remove the bone from the cavity; for, if the synovia were to become thick (abundant?), it would rather retain the bone in the acetabulum, than displace it."‡

M. Petit, after giving a case of dislocation of the femur, due to rheumatic arthritis, continues:—"L'os ne se déplace point dans l'instant de la chute, mais long-temps après et par degrés. Dans les premiers jours la tête garde sa situation naturelle et la cuisse ne commence à se raccourcir que quand la tête a commencé d'être chassée par la synovie. Il semble que la cuisse ne devrait se raccourcir que lorsque la tête de l'os est entièrement sortie; cependant elle ne devient plus courte que peu à peu et a mesure que la tête fait son chemin pour sortir."§ Again he says, repeating to a certain extent the same idea:—"In falls on the trochanter, the head of the femur is violently pushed against the acetabulum,

and, as it exactly fills this cavity, the cartilages, synovial glands and the round ligament are bruised; hence follow inflammation and suppuration. The synovia collects in the cavity of the joint, the capsular ligament becomes distended by it and the head of the bone is gradually pushed out of its socket. This fluid continuing to collect in the cavity and not being dissipated by the movements of the part, relaxes the ligaments, which are further distended by the action of the muscles. Not only the capsule, but the round ligament is gradually elongated, and the pain continues to augment until this ligament, entirely relaxed or broken, leaves the bone free to take that course in which the action of the muscle shall direct it."¶

Howship, in his *Practical Observations*, perhaps best introduces a subject which has a bearing in the doubt which sometimes exists, whether or not complete luxation takes place, that is the rupture of the capsular ligament. "One question that naturally occurs is the following:—Is the capsular ligament of a joint necessarily ruptured in dislocation or not? Upon this point experience certainly proves that, in some instances, rupture of the capsular ligament takes place, but not in the majority. It was the opinion of a very distinguished surgeon† that the laceration of the capsular ligament depends on the manner of the accident, but it may certainly be regarded as much more immediately dependent, at least in most instances, on the particular state of the ligaments themselves."‡ Sir Benjamin Brodie, after describing a case of dislocation from disease, says:—"The acetabulum was almost completely filled with pus and coagulated lymph; the latter adhering to the carious bone, and having become highly vascular. The head of the femur was lodged on the dorsum of the ilium. The capsular ligament and synovial membrane were much dilated; and, at their superior part, the attachment to the bone was thrust upward; so that, although the head of the femur was no longer in the acetabulum, it was still in the cavity of the joint."§

Mr. Stanley, in an article on spontaneous dislocations of the hip, gives several cases almost identical in description with that of Mary D., and makes some very valuable observations on the subject in question. Short extracts from his articles are given,

* Holmes. *The Surgical Treatment of the Diseases of Infancy and Childhood*, London, 1868, p. 442.

† Brodie. *Clinical Lectures*, &c., p. 274.

‡ Op. citat.

§ Petit. *Hist. de l'Acad. Roy. des Sciences*, 1722, p. 117.

• Boyer. *Op. citat.*, p. 294.

† Desault.

‡ Howship. *Practical Observations in Surgery and Morbid Anatomy*, London, 1816, p. 461.

§ Brodie. *The works of the late Sir Benjamin Collins Brodie*, vol. ii. p. 247.

as showing his view of the case:—"It is well ascertained that inflammation of a mild character, whether rheumatic or otherwise, may, without evident change in the organization of ligamentous tissue, so far affect its power of resistance, that it will yield considerably to an extending force. * * * In the hip joint, from inflammation of a mild character, and probably commencing in its fibrous tissues, there may be effusions of fluid into the capsule, with the yielding of it and of the ligamentum teres; first, an increased length of the limb, and an increase of its circumference in the district of the joint; and, subsequently, on the head of the bone reaching the brim of the acetabulum, a shortening of the limb, as the capsule gradually yields to the action of the powerful muscles constantly tending to draw the limb upwards and backwards. * * With a lengthening of the capsule of the hip joint, it is unlikely that the head of the femur would be displaced in any other direction than upwards and backwards, with a corresponding shortening of the limb, the action of the more numerous and powerful muscles tending to this result; and it may be presumed that the precise situation of the head of the bone will then be between the gluteus minimus muscle and the dorsum of the ilium. * * * It will be remarked, that, in the majority of the cases which have been related, the displacement of the head of the femur occurred so gradually, and with such a freedom from uneasiness in the part, that the patient was wholly unaware that changes so important were in progress; in fact, there was no suspicion of them before the discovery that the actual dislocation had taken place."

Dr. Hayward gives the case of a child, who, without injury, was found, on recovery from a long attack of typhoid fever, to have a dislocated femur in the same way.†

"Again, the disease is generally a subluxation; but it may sometimes be complete. In a case of hip disease, occurring in a boy about 10 years of age, which terminated fatally, I excised the head of the bone, which was completely dislocated upon the dorsum."‡

In view of the reduction of the femur in the case of Mary D., it again becomes interesting to quote the authorities on the subject. M. Velpeau advises that whenever a dislocation has become somewhat old—seve-

ral months, for example—and would require attempts at reduction that might prove dangerous, the surgeon should abstain from intervention.* M. Chassaignac also comments upon the erroneous nature of the views of Pravaz, who supposed he could reduce congenital dislocations by forming, so to say, new articulations. * * * The production of a new articulation must be entirely due to the spontaneous efforts of the economy, by means of which plastic exudations are cast around the displaced bone and gradually transformed into another cavity for its reception."† Dr. John C. Warren, expressing his opinion in reference to a case before the court—of course before the days of anesthetics—says: "In regard to hip dislocations, I must say there is the strongest reason to believe that the intervention of a few days between the accident and the operation will form insuperable obstacles to the reduction of such dislocations in the greater number of cases."‡

Holthouse, in *Holmes's Surgery*, says:—"Much must depend on the age and constitution of the patient, and something on his own wish in the matter. Fabricius Hildanus mentions the case of a lady of rank in whom reduction was attempted fifteen weeks after the accident, but without success; it has, however, been accomplished after the lapse of six months, twelve months, and even longer, as in the remarkable case of Mr. C., related by Sir A. Cooper. Under ordinary circumstances, a reduction of the hip is hardly to be looked for later than eight weeks after the accident, which was the limit placed by the distinguished surgeon just mentioned, beyond which it should not be attempted. Ferguson has never witnessed a successful effort beyond the period of three weeks; but he would deem it quite correct to make trial of all reasonable means at a much longer date, though he could not be at all sanguine of success after two or three months."§

Brodhurst "pointed out two distinguishing features of old dislocations—namely, on the one hand, the recovery of motion and the formation of a new joint; and, on the other, a painful position of the head of the bone, together with a motionless condition of the limb; and suggested that interference was to be deprecated when motion was being restored and the new joint was becoming perfect, but that reduction might,

* Stanly. *Medico-Chirurgical Trans.*, vol. xxiv. (1841), p. 125 et seq.

† Hayward. *Surgical Reports*, &c., Boston, 1855, p. 72.

‡ Bigelow. *Op. citat.*, p. 110.

* *Med. Times and Gazette*, Dec. 16, 1863.

† *Ibidem*.

‡ Warren. A Letter to Hon. Isaac Parker on Dislocations of the Hip-joint, Boston, 1826.

§ Holthouse. *Holmes's System of Surgery*, vol. ii. p. 643.

at any time, be attempted whilst the limb remained motionless and painful."* In the same article he says:—"With chloroform, no precise time can be set as a limit to the reduction of an old dislocation. When useful motion is being regained, when the new joint is being formed, and pain has subsided, attempts at reduction may be deemed unjustifiable; but while the limb remains painful and motionless, the dislocation is reducible, and it ought to be reduced."

Dr. Bigelow, in his exhaustive monograph on the Hip—to which I am indebted not only for much information, but also for many valuable references—gives this opinion in reference to the circumstances under which successful reduction may fairly be looked for:—"So long as the socket was still excavated, and the bones were not deformed by osseous growths, I should feel quite confident of breaking any adhesions, lacerating the newly formed capsule, and replacing the bone, by the great power of the femoral shaft as a lever, and of the flexed leg in rotating the head of the bone around the main ligament."† As shown in the table which accompanies this article, he has himself reduced the femur several times after prolonged dislocation. The views thus expressed are substantially the same as those of most of the other surgeons.

Sir Astley Cooper gives the following testimony:—"I feel that my professional brethren will be disposed to think that I have limited to too short a time the attempts at reduction. It has been stated that dislocations have been reduced at four, and even six months after the injury; and this assertion I am not disposed to deny; indeed, I have myself had an opportunity of witnessing examples of the fact; but excepting in very emaciated, relaxed, and aged persons, I have observed that the injury done in the extension has been greater than the advantage derived from the reduction; and, therefore, in the case of a very strong, muscular person, I am not disposed after three months to recommend the attempt; finding that the use of the limb is not, when reduced, greater than that which it would have acquired in its dislocated state."‡

Mr. Fergusson says:—"It may often be a question, whether or not, in dislocations of old standing, the surgeon should persist, or even attempt, the application of violent force to effect reduction. I have seen a most excellent practitioner fail at the shoulder,

after the lapse of three weeks, when another, making the attempt a few days afterwards, succeeded. I have myself failed in the fourth week, while I have been successful on several occasions in the eleventh; and, though cases have been put to rights even after the third month, the propriety of interfering with the generality of such instances may admit of doubt."* Again, speaking of the hip, he says:—"I have myself seen attempts made in various instances of old standing, but have not witnessed a successful effort beyond the period of three weeks. Sir Astley Cooper has described instances of a more fortunate kind, after the lapse of four, five, six and seven months, and I should certainly deem it quite correct to make trial of all reasonable means at a much longer date than this, although, after two or three months, I should not be at all sanguine of a favorable result."†

Holmes Coote, referring to dislocation on the dorsum, says:—"This condition is quite irremediable. The head of the bone may be drawn down to the socket, but it cannot be kept there. The patient gradually acquires the power of locomotion, but the spine assumes the curvature known by the name of Lordosis."‡ It, of course, suggests itself to the mind that the author has here in view only those cases where erosion of the head, as well as dislocation, exists.

With this review of various authors on spontaneous dislocation, and reduction after long luxation, we recur to the case first stated for some practical observations. A child, eight years of age, is detained in bed by an illness which careful investigation decides to be, without doubt, rheumatism, and rheumatic arthritis of the coxo-femoral articulation. She lies on her side, with the legs flexed for 3½ months, and, on being removed from bed, is found with all the symptoms of dorsal dislocation, well and thoroughly marked, which do not disappear under ether, as would a lateral curvature of the spine, with a tilted pelvis, a subluxation, or an entire loss of the head of the femur; but, on the application of the manipulation method, the limb is at once restored to its proper shape, and, after a reasonable time, the patient comes out sound and whole.

It may be asserted that the case was not one of rheumatic arthritis, but may have been the result, immediate or consecutively, of the slight fall which she experienced.

* London Lancet, 1852, i. 665.

† Op. cit., p. 107.

‡ Cooper. A Treatise on Fractures of the Joints, Boston, 1844, p. vi.

* Fergusson. A System of Practical Surgery, Philadelphia, 1853, p. 200.

† Ibidem, p. 294.

‡ Holmes Coote. On Joint Diseases, London, 1867, p. 127.

The character of the symptoms, however, which were carefully inquired into, goes to show that this was merely an episode, and no more chargeable with the disease of the joint, than the fall which breaks down the remaining portions of the vertebra in Pott's disease.

But may not an error of diagnosis have occurred in calling this a true dislocation? An early consideration should be, what constitutes lengthening, what shortening, and what dislocation. Without entering into details, we know that apparent lengthening and shortening, in nine out of ten cases of trouble at the hip, are due to no dislocation, no injury in fact of the bones themselves—but solely to tilting of the pelvis, lengthening the limb in the earlier and shortening it in the latter stages of the disease—not due to the same actual causes, but simply observed as an anatomical fact. We are well aware how frequently it happens in advanced hip disease that the head of the bone becomes carious, eroded and, at last, lost; the remaining portion of the bone becomes drawn up by the muscular action, and the upper portion of the bone rests on the edge of the acetabulum or perhaps the dorsum. No proper nomenclature could include this as a dislocation; but, of course, it is the cause of shortening. Again, we often find the head of the bone sound, but disease existing in the acetabulum; or, cases in which by accident the head of the bone is long pressed against the upper edge of the cavity, in both of which cases the acetabulum yields to the pressure, and becomes deeply excavated, the head of the femur finds a lodgment there and forms itself a socket, thus causing the sub-luxation of most authors and of course inducing shortening; a luxation, too, which can generally be reduced without ether and without manipulation, but which does not give the signs of dislocation as in complete luxation.

The case in question I consider a true luxation, however, judging from the shortening, flexion, inversion, and other marked signs of dislocation; from the persistence of the symptoms under ether, and the immediate restoration of the limb to its proper form by the operation.*

I think the evidence which this and other recorded cases offer shows that, under such circumstances, spontaneous dislocation may occur, that where flexion of the limb has long been customary on account of the acute-

ness of the disease, the head of the bone, by pressure on the edge of the acetabulum, may cause absorption; if we arrest the process then, we have sub-luxation; but if we allow it to go on, the head of the femur passes over the edge of the acetabulum, passing through the capsular ligament or pushing it before it, and the result is complete dislocation.

Finally, the bone thus abnormally placed may form for itself a new socket, and so become, though to a limited extent, useful for the purposes of locomotion; or, by judiciously regulated manipulation, may, even after the lapse of a considerable time, be restored to its place, and the integrity of the limb regained.

A table of the cases of reduction of old dislocations of the femur which I find on record, is given for reference.

SURGEON.	TIME.	AUTHORITY.
Gockelius.	180 days.	Gallienum Med.-practicum, p. 288.
Salicet.	365 "	Ibidem.
Dupuytren.	31 "	Op. chap. 19.
"	78 "	Ibidem.
"	99 "	"
Dupierri.	180 "	Hamilton, Frac. & Dis., p. 679.
Breschet.	72 "	Repertoire Générale.
Cooper.	26 "	Dislocations & Fractures, p. 35.
"	5 years.	Ibidem, p. 81.
Liston.	35 days.	Ibidem, p. 45.
"	2 years.	Mém. de l'Acad. Roy. de Chir. de Paris, tom. v. p. 529.
Malgaigne.	365 days.	Op., tom. ii. p. 281.
Hayward.	"	Op., p. 71.
Crosby.	68 "	Trans. Am. Med. Ass., vol. iii. p. 358.
Atlee.	120 "	Ibidem, p. 357.
Williams.	150 "	Lancet, 1862, vol. i. p. 665.
Bigelow.	90 "	Dis. & Fract. of Hip, p. 211.
"	240 "	Ibidem, p. 55.
"	28 "	" p. 54.
Blackman.	180 "	Ohio Med. & Surg. Jour., vol. viii. p. 522.
Smyth.	270 "	New Orleans Jour. Med., January 1, 1869.
Brown.	105 "	"
Kimball.	90 "	North Western Med. & Surg. Journal, June, 1870.

ON THE USE OF PEPSIN.

By E. P. HURD, M.D., Newburyport, Mass.

How much confidence ought we to place in Pepsin as a therapeutic agent? Are we giving our dyspeptic patients anything that will do them any real good when we prescribe for them twenty grain doses of "Nutritive Powder"? Are we administering real gastric juice, or only an inert imitation, made from the scrapings of stomachs that are not human? There would seem to be some sense in giving a liberal quantity of rennet (and this any butcher will supply at moderate price); is there any sense in giving a scruple of a powder the

* This patient was examined by several gentlemen, who happened to be present at my visits, and they concurred with me in my estimate of the malposition of the bone.

bulk of which is starch, and which, if ever so thoroughly impregnated with the steepings of the pig's stomach, can digest only eighty or ninety grains of aliment? According to the formula for Boudault's Pepsin, one part will digest only about four of albumen; 15 gra. (the usual dose) will digest—with heat and muriatic acid—a drachm and a half of white of egg. How far is that quantity going to help the poor victim of indigestion through with the chemical solution of an ordinary meal? It would seem as though a much larger dose should be administered for the drug to be of any utility. For four ounces of beef steak, we should clearly require about an ounce of Pepsin, and our patient would need the wealth of Cæsus to keep himself in medicine, for Pepsin is expensive.

The subject needs looking into. I question whether, in support of Pepsin as an artificial solvent of food, we have sufficient data on which to depend. My own experience has led me to be sceptical as to its utility. All the kinds of Pepsin in the market are sold at such high prices as not to be available to our poorer patients. I have been in the habit of recommending sheep's or pig's rennet instead, and with satisfactory results. We clearly need something that will supply the place of gastric juice in deficiency of that secretion. Pepsin very poorly meets this want, and I have reason to believe that much of the Pepsin which is sold in the market is purely inert. The "Elixir Strychnia, Pepsin and Bismuth," which is sold in our drug stores, owes its medicinal virtues principally to the strychnia which it contains. There is not enough Pepsin in it to do any good.

THE INFLUENCE OF MENSTRUATION ON NUTRITION.

By Dr. RABUTEAU.

WHEN man is subjected to a uniform regimen, he eliminates daily the same amount of urea, and the daily average of his pulse and temperature can be considered as constant. It is thus possible to make a long continued series of experiments when it is desired to study the influence of various agents on nutrition. But with the adult female the case is different. My attention was recently directed to this point in studying the action of alkalies on the system of a woman who was following a carefully regulated regimen. I found discrepancies which I could not at first explain, but whose correlation with menstruation I have since recognized. The

results at which I have arrived confirm the following conclusions:

I. During menstruation, the urea is diminished more than twenty per cent., the pulse becomes slower, and the temperature is lowered at least half a degree.

II. These changes commence to manifest themselves one or two days before the appearance of the catamenia, and disappear a few days after their cessation.

The woman who was the subject of my observations was twenty-eight years old, was in good health, and menstruated regularly. During my experiments, a uniform diet was followed, and the temperature was taken in the vagina.

The results arrived at possess an interest in a clinical point of view. Whenever a woman is attacked by a disease which does not suppress the catamenia during its progress, it will be necessary to take into account the disturbances of the pulse and of the temperature which pertain to menstruation. Correlative changes in the urea eliminated, in the pulse and in the temperature necessarily imply an analogous variation in the exhalation of carbonic acid. We know very well that when urea is diminished, carbonic acid is equally diminished. It cannot be otherwise in this case, where all the processes of organic combustion are interfered with because of the loss of a certain number of blood globules, which are the vehicles of oxygen.

I hope, in view of these facts, to refute a great error of MM. Andral and Gavarut. (Annal. de Chim. et de Phys., 1843, 3d ser. vol. viii. p. 129.) They, after having determined that the combustion of carbon increases in man during a period from childhood up to a certain age, then diminishes, and, finally, in old age, falls very low, have advanced the theory that with the non-impregnated woman this progression, at first ascending, then descending, does not occur in the same way; but from puberty to the menopause the woman would not eliminate more carbonic acid than the young girl of from twelve to fifteen years, while at the period of the menopause the combustion of carbon would suddenly increase and subsequently diminish as age advanced.

The first part of this proposition is an error; during the thirty years of menstruation, there are about twenty in which the condition alluded to is the same in the male and the female. In the interval comprised between the five or six days following the cessation of the menses, and a day or two before their re-appearance, an adult woman eliminates not only more urea, but more

carbonic acid than the young girl; just as an adult man exhales more carbonic acid than a child. The authors quoted took, as a general rule, an exceptional condition, which is immediately dependent on the catamenia, and which, in consequence, is only temporary.—*Gazette Hebdomadaire*, July 5, 1870.

Selected Papers.

ON THE USE OF ARSENIC IN CERTAIN PAINFUL AFFECTIONS OF THE STOMACH AND BOWELS.

By ARTHUR LEARD, M.D., M.R.I.A., Senior Physician to the Great Northern Hospital.

As the scope of these remarks is to be exclusively practical, I do not stop to consider the nerve distribution of the gastrointestinal tube in relation to pain. This has been carefully done by Dr. Eulenburg, in his papers on visceral neuralgia, now being published in this journal.

Pain after food is a very common symptom of dyspepsia, and in many cases seems to constitute the disease. This pain usually yields to medical treatment and proper diet. But there is another kind of gastric pain far more severe than that which depends on food, and which does not yield to ordinary remedies. I have elsewhere pointed out how this pain may be removed, and the subject seems of sufficient importance for some further remarks.

In case of the stomach, the pain we have to deal with happens to the same individual at one time when it is full, at another time when it is empty. But cases are met with in which the presence of food in the stomach is clearly the exciting cause. The typical case is that in which there is pain independent of the act of digestion. In this form it commonly seizes the patient in the middle of the night, and is not preceded or attended by any dyspeptic symptoms. The pain in these instances, which are fortunately not very common, is extremely severe, and attended with alarming prostration, lowering of the heart's action, pallor, and cold perspiration. Brandy and other stimulants give but little relief, and after a period of agony sometimes extending to several hours, the attack ceases as suddenly as it had commenced.

Persons of middle age who have been exposed to some great cause of mental depression are peculiarly the subjects of this affection of the empty stomach. Dr. Budd

has also noticed mental disturbance as an exciting cause of the disorder, and he adds that "it is closely allied to water-brash." In this statement I do not concur, for without entering into the vexed question of the nature of water-brash, it is sufficient to say that a particular remedy which cures the one proves injurious to the other.

Further experience has taught me that the bowels, and especially the small intestines, are subject to the same kind of pain. I do not include colic from the effects of lead; but many cases of so-called colic unaccountably occurring at longer or shorter intervals are from the same cause. For whether the pain attacks the stomach or the intestines, its nature is the same; it is essentially neuralgic. Upon this circumstance the success of the new treatment, which consists in the judicious exhibition of arsenic, depends. As may be inferred from what has been stated, the difficulty of diagnosis between the neuralgic and the more common forms of gastro-intestinal pain is very great. The best rule of practice is, when gastric or intestinal pain resists all ordinary treatment, and cannot be traced to gall-stones or any organic source, to test the matter by the effect or non-effect upon it of the remedy. By this method I have succeeded in effecting several cures. On the other hand, the arsenical treatment has failed in two cases in which, so far as the diagnosis could be established, it ought to have succeeded. In both instances the patients were women past middle age, of stout habit, and too freely addicted to the use of alcoholic stimulants.

The curative effects of arsenic are most striking in severe cases of paroxysmal pain, and its success becomes doubtful in proportion as the case assimilates to those in which a lower degree of pain is traceable to the influence of food. In determining the question of the fitness of a case for the arsenical treatment certain circumstances may render essential aid. If the disease came on after some mental shock or severe trial, if the patient has previously unmistakably suffered from neuralgia, if he has lived in a marshy district, and especially if he has had hemiparesis or ague, and if in addition to the occurrence of one or more of these circumstances the pain is paroxysmal, it will almost certainly yield to arsenic. But as already said there are other cases suitable for the treatment, and they are the most numerous, in which the pain closely resembles that which attends dyspepsia. It is sometimes extremely difficult to make the diagnosis between neuralgic pain of the

stomach or bowels and the pain caused by gall-stones. But in my previous paper I have gone into details respecting this and other sources of error.

A few words will suffice as to the particular preparation of arsenic to be selected, and the extent to which it should be used. In most cases the liquor arsenicalis answers every purpose, but when the system is more than usually susceptible of the action of the mineral the liquor sodæ arseniatis seems to irritate less, and in a few instances the acid solution of arsenic is to be preferred to either. Whatever preparation be selected it should always be taken immediately after food, and, notwithstanding that its beneficial action may have been previously observed, it will be proper to continue the medicine until its constitutional effects are well marked. Notwithstanding what has been said to the contrary I do not believe that the proper use of arsenic as a medicine is followed by any injury to the system.

The following brief notes illustrate the utility of the treatment in cases in which the pain is increased by food, and also its effect in cases in which the intestines are affected:—A lady, 40 years of age, who had met a reverse of fortune by the death of her husband two years previously, was sent to me by her medical attendant in January, 1869. I was informed by him that every ordinary means, including a milk and farinaceous diet, with entire abstinence from meat for eight months, had been exhausted in his attempts to relieve her sufferings. These consisted in constant pain in the gastric region, extending round the left side to the centre of the back. The pain was much aggravated by meals, especially by breakfast and tea, and at times it amounted to perfect agony. Vomiting frequently ensued, and then some relief of the pain was obtained. There was great flatulence, a sense of oppression in the stomach, and obstinate constipation. The patient, naturally of stout habit, had lost over 50 lbs. in weight. She was immediately put on the arsenical treatment, which was speedily followed by great improvement. This treatment was continued, and the dose gradually increased until the constitutional symptoms, which consisted in this instance of itching of the eyes, soreness of the soles of feet with a red rash upon their sides, ensued. By this time her cure may be said to have been complete; she rapidly gained flesh and strength, and has since remained well.

The symptoms, in this case, resembled those of ulcer of the stomach, but the fact that a rigid milk and farinaceous diet in-

creased rather than diminished them was opposed to this view.

A gentleman, 28 years of age, much engaged in commercial speculations, consulted me in the early part of the present year. He had been for a long period subject to a violent but dull pain in the umbilical region, coming on about two hours after meals. For the three previous weeks it had happened daily after breakfast, luncheon, and dinner. Liquids, even plain water, induced it more than solids. There was neither flatulence nor any other stomach disturbance, and the bowels were quite regular. Various plans of treatment had been found ineffectual. He had suffered from neuralgia in the left temple two years previously. Notable relief was afforded by the liquor arsenicalis after it had been taken only two days; it was continued altogether for about three weeks, when his eyes became affected. At this time the disease had quite subsided.—*London Medical Times and Gazette.*

Medical and Surgical Journal.

BOSTON: THURSDAY, SEPTEMBER 29, 1870.

ETHER BETTER THAN CHLOROFORM; STATISTICS OF FIFTY CASES OF OVARIOTOMY.

FROM a valuable paper in a recent number of the *London Lancet*, by Dr. Thos. Keith, of Edinburgh, in which he gives in detail the result of a second series of fifty cases of ovariectomy, with an account of those cases in which no operation was performed, we glean a few practical points of more than usual interest.

Of the 100 cases reported there had been 81 recoveries, and in the second series of cases a gain of six per cent. had been made over the first 50. In the first series death took place, on an average, in the course of the third day; in the latter, during the tenth day.

"In case 52 the excessive chloroform vomiting during the operation, and for some time after it, so prostrated the patient that her chance of recovery was lost. In the early cases I have frequently had to deplore the injurious effects of chloroform vomiting in ovariectomy, and so evident was the mischief occasioned by it in this unfortunate case, that I have since then entirely abandoned the use of this agent in ovariectomy and other severe and tedious opera-

tions, and now use instead anhydrous sulphuric ether [the italics are ours, Ed. JOURNAL] made from methylated alcohol, administered through Dr. Richardson's apparatus. *The oftener it has been given the more I like it. How chloroform so quickly superseded it is a marvel.* The anesthesia of ether, though at first slower, is extremely steady and quiet. There is infinitely less vomiting than with chloroform, and instead of the pallid face and feeble pulse of chloroform, the patient, after a long operation, is put to bed with a flushed face and a great surface circulation. In cases of non-adherent tumor vomiting is, I fancy, of little consequence; but when there has been extensive adhesion, and when oozing may be set up by it after the wound is closed, vomiting can be no trifle, and will turn the scale. Sulphuric ether has now been used—at first with a small proportion of chloroform—in 53 cases of ovariectomy (of which 46 recovered), and I think that something has been gained from the use of it. I would put in a word for the old anæsthetic. Chloroform certainly saves the surgeon five or ten minutes of time, and a little trouble. *Had it never been heard of, I doubt if humanity would have suffered from the want of it."*

"When practicable, the extra peritoneal method of treating the pedicle has been adhered to. On the whole, greater success will probably follow this than any other single method, especially when we have to do with a bad general condition. Thus in 40 clamp cases (from the 45th to the 85th) there were 3 deaths; and in neither of them had this way of treating the pedicle anything to do with the result. Ligatures on the pedicle have also once or twice been cut short, and returned; sometimes they have been left hanging out at the wound, and of late the cautery has been several times used with excellent results. Each method has advantages in certain cases.

* * * * "The mortality would probably have been much lower, if there had been earlier operation in many of them; not that small tumors giving little trouble should be removed, for, on the whole, cases do best where the tumors are large and the general health somewhat impaired. There is, however, a stage in the progress of ovarian disease in which the operation is safe; and, if this favorable time be allowed to pass, no care or skill can make up for it."

We are glad that so distinguished a man as Dr. Keith has reached such a point that he can conscientiously recommend the use

of ether over chloroform in the operations of surgery, and especially in ovariectomy; and that this course, moreover, is not the result of a fancy or whim, but that he has, in the very stronghold of chloroform, by the result of experience and actual trial, arrived at this result; he has worked out, *exercized* by sheer force, a sequence which he could not escape, and has frankly given his brethren testimony to that effect. The testimony given by Dr. K. is rendered much more valuable when we consider the respect which he commands in the professional world. A pupil of Sir James Simpson, eminent as an investigator, a careful worker, and a writer of ability, he has especially made himself famous in the study and care of ovariectomy.

We are disposed to take issue with Dr. Keith on one point, namely, the time alleged to be lost in the administration of ether. The average time spent in thoroughly etherizing patients in our experience has been from three to five minutes; we have placed a patient entirely under its influence in a minute and a half by the watch; but we have never felt justified in using chloroform so rapidly. The fact undoubtedly is that our English brethren are in the habit of using ether with the same cautious admixture of air that we employ with chloroform. We have seen ether so given by physicians, of large experience even, and we have not wondered, on seeing it, at the popular belief that some patients "cannot take ether," or at the time alleged to be wasted by our English brethren.

MESSRS. EDITORS.—In reading the article in your last number, September 15th, 1870, entitled, "Modern Medicine; its Need and its Tendency—The Annual Discourse before the Massachusetts Medical Society May 25th, 1870—by William W. Wellington, M.D., of Cambridgeport," this evening, I was startled by the remarks, "Diseases which can be cut short or broken up by medicine are few in number, and may be counted on the fingers," and the author of the paper, H.-P., adds, in brackets, "He might have said thumbs, and, possibly, then had one to spare;" also with the remarks preceding, "Disease is a series of perverted life processes; not a thing added to the animal economy to be driven out, nor a thing subtracted from it, leaving a void to be

filled." "The object in any serious illness being usually not so much to drive disease out of the body as to keep life in it. Whatever else be done, or be not done, let his strength be supported by proper nourishment, supplemented, if need be, by tonics and stimulants, so that he may be kept alive till the disease has run its course and the natural forces have restored healthy in place of diseased processes."

My graduating Thesis, Messrs. Editors, was on the "Vis Medicatrix Naturæ," and during over forty years of active and extensive practice in city and in country, in epidemic and contagious, as well as in all kinds of sporadic disease, I have been a careful and close observer, not only of disease itself, but of the efforts of nature to throw off disease and to remedy its effects; and I do most solemnly protest against the doctrine that disease is a "perverted life process." I maintain that disease causes this "perverted life process," and that it is simply an effort of the vital powers to throw off disease.

I also wish to enter equally as strong a protest against the assertion that "diseases which can be cut short or broken up by medicine are few in number, and can be counted on the fingers," much less on "one thumb." Every respectable practitioner of medicine knows that pleurisy and all acute inflammations of the fibrous and synovial membranes are not only cut short, but eradicated by proper depletions and other antiphlogistic treatment. Would the author of that annual discourse, who received such an unanimous vote of thanks from the Massachusetts Medical Society, dare to give brandy and quinine and other tonic and stimulating medicines and diet in gastritis, enteritis, hepatitis, nephritis, or other acute inflammatory disease of any of the vital organs or membranes of the brain, or even the mucous membranes, and wait until supuration or gangrene followed as the result of the inflammation, and the patient died, for nature to cure the disease, and excuse himself by saying that the probably correct conclusion our profession have come to at the present day is that "disease is a part of the plan of creation," in other words that is ordained by God our Creator for our benefit, and the duty of the physician is to support the patient by nourishing food and tonics, and stimulants, so he may best endure the changes, he is undergoing by this foreordained "*part of the plan of creation*," until "the natural forces have restored healthy in place of diseased processes," or the disease has killed the patient, which it

will do in ten out of every twelve cases of acute disease under such treatment.

I am now practising in the midst of the densest population of this great city of New York, where tenement houses, with from ten to twenty families in each, do most abound, and where fevers, dysenteries, cholera morbus and cholera infantum do most prevail; and not being a Homœopathist, or Brunonian, as we need to call those who gave brandy and tonics at the commencement of disease, I deplete by venesection in acute cases where the patient is strong and robust, give an emetic—ant. tart. I prefer—followed by mercurial cathartics, until the offending contents of the bowels are removed, and the liver and digestive organs are restored to a healthy action, allaying irritation of the bowels by anodynes, and I but seldom have any of the diseases above named run over a week or ten days, and a large majority are cured in three or four days. I but seldom give tonics in these diseases, except a solution of quinine in intermittent fevers, after the emetic and mercurial cathartic. Of the numerous cases of these diseases I have treated during the past hot summer, not one in fifty have proved fatal where I was called at the commencement of the disease. How can any respectable physician say that these diseases were "not cut short or broken up by medicine"?

These doctrines, Messrs. Editors, enunciated in the annual discourse before your State Medical Society, are the same in substance as used by the late Governor Briggs, of your State, in favor of homœopathy, in a long conversation I had with him on that subject, in 1852, and are the reasons assigned by Judge Harrie, of Albany, now a Professor of the Albany Medical College, for being a homœopathist. If they are sanctioned and adopted by so respectable and conservative a body as the Massachusetts Medical Society, how long will it be before our noble Profession, who have done so much for the arrest, the amelioration and eradication of disease—the direst foe of man—will become homœopaths, and let this fell tyrant have unlimited sway, and scathe and cut down the human family unchecked and unobstructed, giving nourishing food and tonics to feed the disease as well as the patient, and millionths of a grain of medicine, occasionally, done up in sugar to satisfy the anxious friends that the utmost skill of our profession is exerted for the benefit of the sick and to cure the disease, until the "*vis medicatrix naturæ*" unaided fails in its efforts to expel the disease, and death closes the scene.

I am a firm believer in the efforts of the vital powers to throw off disease, and always try to aid them in their efforts. Hence, if I see a splinter in the flesh, and they are sending increased quantities of blood around it to produce inflammation and suppuration to expel it, I extract it. If I find vomiting in cholera of any kind, even *Asiatic*, I know it is the effort of these powers to expel some offending substance from the stomach, and I give an emetic to assist them in their efforts. If I find a diarrhoea, or even dysentery, I give a cathartic for the same purpose. If I find pain and fever, I know it is caused by some offending substance in the system, and if it cannot be directly removed by evacuations, I deplete and lessen the increased action of the arterial system until the absorbents and excretories remove the offending cause. By this course of treatment I believe I have cut short and removed most of the diseases to which flesh is heir in many cases—the doctrine of the modern school of practice, if it is proper to call it by that name, as enunciated in the annual discourse above referred to, to the contrary notwithstanding. A. J. CHADSEY, M.D.

New York City, Sept. 17, 1870.

TREATMENT OF STRICTURE OF THE URETHRA BY THE INTRODUCTION OF HORSE-HAIRS AND PERFORATED BOUGIES. By Prof. MITSCHERLICH, of Berlin. Translated by FRANK W. DRAPER, M.D., Boston.—Prof. Mitscherlich, of Berlin, successfully treats the majority of cases of stricture by dilatation with whale-bone sounds or elastic bougies; four to eight weeks being required to restore the calibre of the canal. He has had opportunity to observe a number of persons in whom a cure was effected eight years ago, in whom there has been no recurrence of the stricture.

But there are some cases in which the stricture is apparently undilatable by the ordinary means, even by the use of the finest sounds. In such instances, Dr. Mitscherlich uses horse-hairs as delicate bougies. He has not yet found any cases which do not yield to this simple method, and he has always reached the bladder and successfully dilated. The horse-hair serves as a guide on which to pass small perforated sounds. The hairs are smaller than the smallest bougies, and possess, moreover, an elasticity and a compactness which permit their introduction without fear of injury to the urethra. In this respect they are preferable to whale-bone.

The instruments used by Mitscherlich

consist, in the first place, of horse-hairs of the desired length. It is easy, according to circumstances, to secure greater size and stiffness by uniting two, three, or even more of the hairs together by means of some sort of elastic cement.

Secondly, he employs elastic sounds which are hollow. These sounds should be not more than half a line in diameter at the end, and their inner surface should be perfectly smooth and asymmetrical.

These instruments, used with caution, cannot make false passages or do any other injury. The hair, being soft and flexible, will double on itself before perforating the canal of the urethra; and the bougies, being guided on the hairs, cannot deviate; indeed, they cause only trifling irritation.

The author reports a case in which the patient had cystitis, resulting from an old stricture, accompanied with extreme irritability of the urinary tract, and still another complication; and yet, after a time, he succeeded in introducing large sounds. In another case, the bougies were left in place several days without causing any bad symptoms.

In nine cases which Dr. M. has treated by this method, he has failed in only one. The surgeon being unavoidably absent, the patient became disheartened and entered a hospital; the stricture was there deemed undilatable, and perineal section was performed successfully.

In support of this method, two farther cases are reported of complete success in patients of thirty-five and forty years; and, moreover, one case of traumatic stricture. As this last variety is generally intractable, we report this case as one of interest in more senses than one.

A soldier, G. H., received a gun-shot wound in 1849. After some years an attempt was made to extract the ball, which was felt through the soft parts of the perineum. The patient was placed in the lithotomy position and anesthetized. When the operator, having reached the ball, was about to seize it with forceps, it escaped his grasp, and probably became lodged in the cavity of Douglas. Further search for it was suspended, and it was not felt afterwards. After the operation, the patient passed his urine both by the urethra and by the perineal wound. The consequence was the development, in less than a year, of a very firm and contracted stricture.

In the spring of 1868, an unsuccessful attempt was made to dilate the stricture, but Mitscherlich succeeded in passing a very small whalebone bougie into the blad-

der. The patient was very irritable, the more so because of a constant cystitis; in time, however, elastic bougies and very fine sounds were introduced. But the patient moved away and treatment was remitted; so that the stricture became so tight that a horse-hair could be passed through it only with the greatest difficulty. By means of these as guides, increasing sizes of hollow sounds were introduced. The time required for a cure was long, on account of the tightness of the stricture and because the occupation of the patient rendered the treatment less continuous and effectual.

The final result was as satisfactory as could be desired, large sounds being passed with ease. The cystitis was meanwhile only slightly relieved, but it should be remembered that a stricture of such long standing causes changes in the mucous lining of the bladder which will yield only after long treatment.

The method of Mitscherlich will attract, by its simplicity alone, the attention of those who, recognizing that theoretically there are no undilatable strictures, yet know that in practice there are cases which yield with the greatest difficulty. When, also, it is desired to perform internal urethrotomy, the use of horse-hairs offers an advantage of importance, since it can prepare the way for the guide, whether for urethrotomy or for forcible dilatation, thus obviating perineal section.

GASTRIC JUICE AS A LOTION. Translated by FRANK W. DRAPER, M.D., Boston.—*The Gazette Hebdomadaire* for July 15th, 1870, contains some observations on the use of gastric juice as an application to the ulcerations of malignant tumors, and as an antiseptic remedy of general utility in surgery. The following is an abstract of the article:

"The use of gastric juice in surgery was first suggested simultaneously in France and Italy in 1785. It was applied as a lotion to ill-conditioned ulcers, and under its influence remarkable changes were observed. The tough, calloused edges of the ulcer melted down, the purulent and sanious discharge gave place to an inodorous suppuration of good character, and the healthy and the diseased tissues became readily distinguished without the supervention of inflammation. It had a marked and beneficial influence when used internally as well, and contusions, œdema, indigestion and intermittent fever yielded to it. Subsequent researches confirmed these early observations,

and an attempt was made to prepare artificial gastric juice by the maceration of small pieces of raw veal in salt water.

"But since the beginning of the present century the use of this agent has been almost neglected. It has been recently revived in Germany, and Dr. Menzel publishes two cases illustrating its effects. In one of these, the patient, a woman aged twenty-nine, presented herself with a malignant tumor, of large size and rapid growth, situated in the posterior and lateral cervical region. It was removed, and the wound cicatrized well, but in a month, adjacent glands became involved, and another tumor developed with such surprising rapidity that in two weeks it had grown to the size of a man's head. At its summit were two unhealthy ulcerations. To these two ulcers charpie, saturated with gastric juice, was applied, and over all was placed another layer of charpie filled with a weak solution of hydrochloric acid. After six days the ulcers had doubled in size, but all fetor had disappeared, and, subsequently, although they enlarged rapidly, they continued healthy in their appearance.

"In the second case, a medullary cancer was removed from the parotid region of a man sixty-five years old. The incisions healed well, and recovery seemed assured; but after four months the malignant growth reappeared in the granulations of the wound. To this ulceration gastric juice was applied on a pledget of lint, and the muriatic acid dressing was also used—one part of the acid to one hundred of water. The surface of the ulcer became covered with a yellowish-grey false membrane, which was easily detached. The application was continued four days, with the effect of healing the wound almost completely. The patient died two months later, of an intercurrent disease.

"According to Dr. Menzel, the results of these two cases point to two conclusions. The gastric juice of the dog applied to ulcerated neoplasms (glandular or cancerous), produces a false membrane of a yellowish-grey color, and the ulcer loses all bad odor. It seems that the gastric juice does not attack living tissues which are well supplied with vessels, but that the destructive effects are confined to tissues which are already dead or are about to die. Dr. Menzel considers it superior as an antiseptic to most of the remedies in modern use, since it does not substitute for a putrid odor one scarcely less disgusting. It is not a caustic agent, nor does it fulfil the indications for the use of caustics; it will

not destroy malignant growths, but it is a powerful antiseptic remedy which can modify the course of ulcerations. Unfortunately, of all such agents, it is the most difficult to prepare, and it is to be hoped that an artificial gastric juice may yet be made which will produce equally good results."

CASE OF TRANSVERSE FRACTURE OF THE PATELLA, WITH OSSEOUS UNION. By JOHN WOODMAN, F.R.C.S.—On the evening of August 21, 1869, W. E., aged 32, a smith and fireman, and a muscular man, was running quickly in the street on an alarm of fire, when he tripped, and, to save himself from falling, threw himself backwards, and in doing so felt something snap in his knee, and fell down. He was brought to my house, and attended to in my temporary absence by my neighbor, Mr. S. Perkins.

On the following morning I saw him, and found on examination that the left patella was transversely fractured, and that the two portions were entirely separated, being drawn widely apart on the slightest attempt to bend the knee. I brought the two portions together with strips of sticking-plaster and a figure of eight bandage, and placed the leg on an inclined plane, with the heel a foot higher than the hip, but finding it impossible to keep them in perfect apposition in this way, on the 23d I moulded a gutta-percha splint to the front of the knee, cut a hole in it exactly the size of the patella, and then applied this, padded with a little cotton-wool, and another gutta-percha splint for the back of the leg, keeping them moderately tight with a bandage, so as to press the patella through the hole in the splint, and thus hold the two portions firmly together. This answered the purpose admirably, and gave him no inconvenience at all. He was kept like this, with his leg on the incline, for about six weeks, and when he moved about he wore a light wooden splint with the front gutta-percha one, with a portion cut off to make it lighter. He was very anxious not to strain the knee, and kept the back splint on for nearly five months, whilst working at his trade.

I saw him on July 16, 1870, just eleven months after the accident, and found the bone perfectly united with osseous union, so much so as to render it almost impossible to detect the seat of the fracture; the edges of the bone are quite natural and smooth, and only a slight irregularity in the middle of the surface of the front of the patella can be detected on a minute examination. He can use the leg very well; al-

though he cannot bend it quite as much as the other, still it is fast improving. His own remark was, "It is stronger than the other knee, and I have tried it very much in my trade" (a blacksmith).

The success of this case I attribute entirely to my being able to keep the two portions of the bone in such perfect apposition. As the plan is so simple I dare say it may have been tried before, still, as I cannot find it mentioned in any of the text books on surgery, there may be some of my professional brethren to whom the case may be of interest, especially as I see Erichsen says that only two or three cases of osseous union are on record.—*London Med. Times and Gazette.*

ARTIFICIAL FECUNDATION.—Dr. Girault, of Paris (*Medical and Surgical Reporter*), lately read an essay before the Medical Society of the Pantheon, entitled "A Study on Artificial Generation in the Human Race," and reported in all twenty-seven attempts at artificial procreation in the human female, of which ten were successful, and others doubtless would have been, if the couples had been more persevering in their efforts, and allowed him to continue his endeavors.

The only instrument necessary is a uterine catheter with a funnel-shaped opening at the external end. Into this the sperm is placed, after the point has been introduced into the cervical canal, and blown into the cavity of the uterus. The instrument should be of the temperature of the body, and the semen contain active spermatozoa, with long and rapidly vibrating tails, as the latter is the sign of their fecundating power.

Among others, he relates the following case:—A man, 65 years old, married to a wife of 27 years, had passed seven years without offspring. The pair applied to Dr. Girault, who, after four failures, succeeded so completely on the fifth attempt, that in nine months afterwards the lady was delivered of twins, one boy and one girl. The latter died after three months, but the former survived and was healthy when last seen, at the age of 9 years.—*Med. Record.*

MANGANESE IN BLOOD AND MILK.—Professor Polucci, of Italy, has discovered the constant presence of manganese in the human blood. Manganese was also found in 34 analyses of milk, 23 of which were human, 4 from the cow, and 4 from the goat.—*Med. Record.*

Medical Miscellany.

LIEUTENANT VON LANGENBECK, a son of the eminent surgeon of Berlin, has died of wounds received in battle on the 18th of August. The only son and the son-in-law of General Staff Surgeon von Grimm were both killed before Metz on the 18th. The sons of Dr. Simon of Berlin, Dr. Stilling of Cassel, and of several other medical men, have been wounded—the son of Dr. Laner, Physician in Ordinary to the King of Prussia, severely.—*Brit. Med. Journal*.

JEWISH PHYSICIANS IN ROME.—Although Roman history mentions a large number of celebrated Hebrew physicians, who attended former Popes in cases of severe sickness, and although Leo X.'s body physician was a Jew, the practice of medicine is at the present time allowed to Jews only on the condition that they confine themselves to members of their own religion. A Hebrew doctor, who, two years ago, attended to a Catholic who had fainted in the street, and visited him at his special request, at his home, escaped punishment only through the intercession of some influential persons. The practice of pharmacy in Rome is absolutely prohibited to Jews.—*American Journal of Pharmacy*, from *Pharm. Zeitung*.

OLD DR. HEIM, of Berlin, was as original and eccentric as he was celebrated. He used to treat annually as many as 3,000 poor people; but, on the other hand, he demanded liberal fees and respectful treatment from great people. One day the Palatine of Hesse, while on a visit to Berlin, went to consult him. Seeing that the Prince remained seated when he entered, Heim said abruptly, "Would your Highness please to stand up for a moment?" The astonished patient did as he was bid. "So; that will do; now, please to turn about once." This having been done, he remarked, with a musing sort of manner and in a leisurely tone, "Hum! Just as stiff as I should have expected a Palatine to be?"—*Exchange*.

SUBSTITUTE FOR THE FORCEPS.—A British medical officer, travelling in India, met with a case of labor requiring the forceps. Not having any instruments at hand, he sent for some dancing-girls, and selecting the one with the smallest hands, caused her to introduce them after the manner of forceps, and so to effect delivery.—*Pacific Med. and Surgical Journal*.

Two more deaths from ignorance or carelessness of druggists' clerks were reported last week. At Batavia, in this State, a young man was given eighty grains of tartaric acid in mistake for a dose of salts (so the *Albany Evening Journal* has it, although such an error seems almost inconceivable), death ensuing in a few hours; and in Bridgeport, Connecticut, a girl aged twelve was killed by the substitution of morphine for quinine in compounding a prescription. When shall we have laws prohibiting the dispensing of drugs by any save graduates of a College of Pharmacy?—*N. Y. Medical Gazette*.

TRANSLATION OF PROFESSOR HELMHOLTZ TO BERLIN.—Heidelberg is shortly to lose its most famous professor, who has received a summons from Berlin to fill the chair of the late Professor Magnus. This is indeed a chair of Physics, while that of Helmholtz at Heidelberg is Physiology; but our readers are well aware how high is the rank he also holds as a physicist and mathematician. It is indeed from a combination of these various sciences that some of his most celebrated physiological researches have resulted.—*London Medical Times and Gazette*.

TO CORRESPONDENTS.—Communications accepted.—A Case of Delirium Tremens successfully treated by Hydrate of Chloral.—The Tendency of so-called Local Diseases to Generalization.

ERRATUM.—In the article in the JOURNAL for last week entitled "Stricture of the Rectum," &c., concluding sentence, for "a priori peritonitis," read *a prior peritonitis*.

The attending physician's name was not mentioned in connection with the autopsy. This was because of his necessary absence from home. A. P. H.

MARRIED.—At Norton, 21st inst., Frank A. Shurtleff, M.D., of Somerset, to Miss Martha A. Godfrey, of Norton.—At Paris, France, 30th ult., Frank Livermore, M.D., formerly of Cambridge, Mass., to Miss H. Lalla Clark, of New York City.

DIED.—At Provincetown, Mass., Sept. 24, Frederic Howard, M.D., of Randolph, aged 60.—At Galena, Ill., Horatio Newhall, M.D., aged 70.

Deaths in sixteen Cities and Towns of Massachusetts for the week ending Sept. 24, 1870.

Cities and towns.	Total.	Cholera Infantum.	Consumption.	Diarrhoea and Dysentery.	Typhoid Fever.
Boston . . . 155	19	3	15	0	6
Charlestown 16	5	4	0	0	0
Worcester . 14	2	3	0	0	0
Lowell . . . 18	0	2	2	2	2
Milford . . . 8	0	2	0	0	0
Chelsea . . . 10	1	2	0	0	0
Cambridge . 31	5	1	4	4	4
Salem . . . 10	1	1	1	1	2
Lawrence . 11	3	2	1	1	1
Springfield . 7	0	1	1	1	1
Lynn . . . 16	1	6	1	1	2
Fitchburg . . 6	0	0	0	0	2
Gloucester . 12	0	3	0	0	4
Fitchburg . 1	0	1	0	0	0
Taunton . . 7	1	2	0	0	0
Newburyport 3	0	1	0	0	0
Fall River . 8	1	1	1	1	2
Haverhill . . 3	0	1	0	0	0
	336	39	57	29	28

GEORGE DERRY, M.D.,
Secretary of State Board of Health.

DEATHS IN BOSTON for the week ending Saturday, Sept. 24th, 1870. Males, 76; females, 79. Abscess, 1—accident, 5—asthma, 2—inflammation of the bowels, 2—congestion of the brain, 3—disease of the brain, 6—inflammation of the brain, 1—bronchitis, 2—burns, 3—cancrem oris, 1—cholera infantum, 19—consumption, 24—convulsions, 4—croup, 3—debility, 1—diarrhoea, 14—dropsy, 1—dysentery, 4—scarlet fever, 4—typhoid fever, 6—disease of the heart, 5—infantile disease, 2—interperence, 1—disease of the kidneys, 2—disease of the liver, 1—congestion of the lungs, 4—inflammation of the lungs, 5—marasmus, 6—old age, 3—paralysis, 2—peritonitis, 1—pleurisy, 1—premature birth, 5—puerperal disease, 1—suicide, 1—unknown, 9.
Under 5 years of age, 73—between 5 and 20 years, 15—between 20 and 40 years, 29—between 40 and 60 years, 24—above 60 years, 14. Born in the United States, 103—Ireland, 39—other places, 13.